

LISTING OF CLAIMS:

1. (currently amended) A method for forming an integrated ornamental surface on a monolithic concrete floor concurrent with the pouring and finishing of the concrete floor, comprising the following steps in order:

preparing and forming the region upon which the monolithic concrete floor is to be poured;

contiguously pouring concrete throughout the formed region to form a monolithic layer;

floating the concrete to effectively densify the monolithic concrete layer;

allowing the concrete layer to cure to a semi-stiff state;

finishing the exposed upper surface of the concrete layer to produce a generally planar surface;

disbursing a quantity of a ~~non-cementitious~~ decorative aggregate over only the surface of the semi-stiff concrete layer, wherein said decorative aggregate has a particulate size of at least 6 mm and no more than 50 mm;

integrating the aggregate into the upper surface of the semi-stiff concrete;

partially curing the concrete with the integrated aggregate;

grinding the upper surface of the partially cured concrete with the integrated aggregate therein, including partially removing some of both the partially cured concrete and the integrated aggregate material at least until the aggregate is exposed uniformly over the top of the concrete, wherein said grinding step further comprises the steps of:

a rough first pass using a rotary head concrete grinding machine having a cutting head of diamonds;

a second pass using a finer grit on a disc comprised of silicon carbide and a bonding material; and

a polishing pass with a rotary head polishing machine using between about a 200 grit to a 1600 grit diamond pad.;

fully curing the concrete with the integrated aggregate; and

polishing the upper surface with the integrated aggregate to provide a generally planar and smooth surface on the monolithic concrete floor.

2. (canceled)

3. (original) The method of claim 1 wherein the step of disseminating the decorative aggregate includes distributing an aggregate selected from the group consisting of:

marble;
porcelain;
granite;
glass;
calcareous formations;
shells;
aluminum;
zinc;
brass;
copper;
plastic; and
manufactured objects.

4. (original) The method of claim 1 wherein the decorative aggregate is a naturally occurring material.

5. (original) The method of claim 1 wherein the decorative aggregate is a man-made material.

6. (original) The method of claim 1 wherein said semi-stiff state is determined by a one-quarter inch depression resulting from an applied normal force of between about 4 and 5 pounds per square inch.

7. (original) The method of claim 1 wherein the step of pouring concrete comprises the further step of pre-mixing, with the concrete, a colorant additive.

8. (previously presented) The method of claim 1, further comprising applying a hardening compound to the upper surface after polishing.

9. (original) The method of claim 8, wherein the hardening compound is selected from the group consisting of:

- silicates;
- siliconates;
- fluorosilicates;
- siloxanes;
- silazanes;
- silanes;
- silicon esters; and
- combinations thereof in a solvent.

10. (original) The method of claim 9, wherein the solvent is selected from the group consisting of water and alcohol.

11. (canceled)

12. (original) The method as described in claim 11, wherein at least the step of a polishing pass is repeated until the upper surface has a shine, and further including the step of applying a surface treatment to the polished upper surface, where the surface treatment is a chemical reactive concrete stabilizer providing a densified upper surface.

13. (original) The method of claim 1 wherein the monolithic semi-cured concrete floor is scored with a diamond saw to facilitate uniform stress releasing fracture.

14 - 19. (canceled)

20. (currently amended) A method for forming an integrated ornamental surface on a monolithic concrete floor concurrent with the pouring and finishing of the concrete floor, consisting essentially of:

preparing and forming the region upon which the monolithic concrete floor is to be poured;

contiguously pouring concrete throughout the formed region;

floating the concrete to effectively densify the concrete;

allowing the concrete to cure to a semi-stiff state;

finishing the exposed upper surface of the concrete to produce a generally planar surface;

disbursing a quantity of a ~~non-cementitious~~ decorative aggregate over only the surface of the semi-stiff concrete, wherein said decorative aggregate has a particulate size of at least 6 mm and no more than 50 mm;

integrating the aggregate into the upper surface of the semi-stiff concrete;

partially curing the concrete with the integrated aggregate;

using a series of successively finer abrasives, grinding the upper surface of the partially cured concrete with the integrated aggregate therein, including partially removing some of both the partially cured concrete and the integrated aggregate material at least until the aggregate is exposed uniformly over the top of the concrete;

fully curing the concrete with the integrated aggregate; and

polishing the upper surface with the integrated aggregate to provide a generally planar and smooth surface on the monolithic concrete floor.

21. (New) The method of claim 1 wherein partially curing the concrete with the integrated aggregate includes waiting at least about three days and no more than about seven days.

22. (New) A method for forming an integrated ornamental surface on a monolithic concrete floor concurrent with the pouring and finishing of the concrete floor, comprising:

- preparing and forming the region upon which the monolithic concrete floor is to be poured;

- contiguously pouring concrete throughout the formed region to form a monolithic layer;

- screeding the exposed upper surface of the concrete layer to produce a generally planar surface;

- mechanically disbursing a quantity of a decorative aggregate over only the surface of the concrete layer, wherein said decorative aggregate has a particulate size of no more than 50 mm;

 - integrating the aggregate into the upper surface of the concrete layer;

 - partially curing the concrete with the integrated aggregate;

 - grinding the upper surface of the partially cured concrete with the integrated aggregate therein, including a rough first pass using a rotary head concrete grinding machine and a second pass using a finer grit, thereby partially removing some of both the partially cured concrete and the integrated aggregate material at least until the aggregate is exposed uniformly over, yet coplanar with, a top surface of the concrete;

 - fully curing the concrete with the integrated aggregate; and

 - polishing the upper surface with the integrated aggregate to provide a generally planar and smooth surface on the monolithic concrete floor.

23. (New) The method of claim 22 wherein partially curing the concrete with the integrated aggregate includes waiting at least about three days and no more than about seven days.